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ABSTRACT

The antecedents and consequences of adolescent pregnancy attracted a great deal of research attention during the 1970's. National statistics show the number of births to adolescent mothers has been declining. To analyze trends in the incidence of births to adolescents in Maine between 1971 and 1980 and to provide a profile of the health and demographic characteristics of this population, computerized records of births to Maine mothers under 20 years of age were analyzed. Results showed births to teenage mothers as a percentage of total births declined from 17.1% in 1971 to 14.9% in 1980. The proportion of out-of-wedlock births to teenage mothers rose from 21.9% in 1971 to 41.8% in 1980. There was a trend toward better prenatal care, and the great majority of the infants were healthy. About two-thirds of the women were 18 and 19 year olds, while 4% were 15 or younger. Results also showed that 53% of the fathers were over 21 years old. Data indicate that trends in adolescent childbearing in Maine are not substantially different from the rest of the nation, and that progress has been made in dealing with the problems of teenage mothers. (JAC)

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CHARACTERISTICS OF ADOLESCENT PARENTS AND THEIR OFFSPRING IN A NORTHEASTERN STATE: 1971-1980

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INTRODUCTION

As documented in recent comprehensive reviews, the antecedents and consequences of adolescent pregnancy and childbearing attracted a great deal of research attention during the 1970s (Baldwin & Cain, 1980; Card & Wise, 1978; Chilman, 1980; Phipps-Yonas, 1980). National statistics regarding births to adolescents reveal that the number of such births has been declining over the past two decades (U.S. Department of Commerce, 1981). However, even with this decrease, more than a half-million adolescent women will deliver babies this year.

These data are cause for concern because of the outcomes to both the adolescent women and their offspring. Adolescent pregnancy and childbearing often result in greater obstetrical risks and lower educational and economic attainment for adolescent mothers than for women who wait until they are older to bear children (Baldwin & Cain, 1980; Phipps-Yonas, 1980).

The offspring of adolescent mothers experience more prenatal risks and more behavioral and educational problems than their peers who have older mothers (Baldwin & Cain, 1980). Further, Bolton and his colleagues (Bolton, Laner, & Kane, 1980) and deLissovoy (1973) note that the constellation of variables that characterize adolescent mothers closely parallels those that characterize parents who abuse and neglect their children. Thus, children of adolescent parents may be at greater risk for abuse and neglect.

These outcomes are not uniform for all adolescent-headed families. Support from the families of origin and from fathers of the infants (Furstenburg, 1976), early and continuous prenatal health care (Sandler, Vietze & O'Conner, 1981), and intervention to assist completion of education (Osofsky & Osofsky, 1970) often mitigate the negative outcomes.

This composite picture of the adolescent mother and her offspring is drawn from samples usually representative of large urban areas in the United States that often include large proportions of racial minorities. The representativeness of these samples when compared with adolescents and their offspring in Maine is questionable. Yet, given the fact that nearly one-sixth of all infants born in Maine are to teenage mothers, the need for studying this population at the state level is apparent. The present research was designed to analyze trends in the incidence of births to adolescents in Maine during the period 1971 to 1980 and to provide a profile of the health and demographic characteristics of this population.

METHODS

Computerized records of all recorded births to mothers under the age of twenty in the state of Maine for the years 1971 to 1980 were obtained from the Bureau of Vital Statistics, Department of Human Services, Augusta, Maine. Included in the data were number of births, county of residence of mother, age of mother and father, educational level of mother and father, marital status of mother, month prenatal medical care began, number of prenatal medical visits, birth weight of the infant, and infant Apgar scores. The Apgar scale is a system for measuring the physical condition of the newborn one minute and five minutes after birth (Danforth, 1977). Measures of the newborn's heart rate, breathing, muscle tone, circulation, and reflexes are combined in a ten-point rating system. The higher the score, the better the physical condition of the newborn.

The data were analyzed utilizing frequency distributions, percentage distributions, and Pearson product-moment correlations (a measure of the strength of the relationship between two variables).

RESULTS AND DISCUSSION

Number of Births

Total recorded births to mothers of all ages in Maine decreased from a high of 17,850 in 1971 to a low of 15,046 in 1976, and then increased to 16,474 in 1980 (Maine Vital Statistics, 1971-80) (Table 1). Births to teenage mothers in Maine decreased from a high of 3,073 in 1972 to a low of 2,370 in 1979, with a slight increase in 1980. Births to teenage mothers as a percentage of total births declined from 17.1% in 1971 to 14.9% in 1980, with 1972 and 1973 as the highest years and 1979 as the lowest (Figure 1, graph top). Thus, births to teenage mothers accounted for a smaller proportion of total births at the end of the decade as compared to the beginning of the decade. This is similar to the national trend, in which teenage mothers delivered 18.0% of children born in 1971 and 16.0% in 1979 (national data for 1980 are not yet available) (U.S. Department of Commerce, 1981).

The fact that the decline in births coincided with the legalization of abortion in 1973 suggests that the decrease in the number of births may be a result of abortion being made more readily available to the population. Since research has indicated that adolescents who choose abortion constitute approximately one-third of those who become pregnant, and that this proportion has increased during the decade, it is possible that although there has been a decline in the number of births to teenagers, there has not necessarily been a decline in the incidence of teenage pregnancy (Phipps-Yonas, 1980).

Table 1

Selected Characteristics Related to Births in Maine by Year

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total Births	17,850	16,269	15,730	15,110	15,232	15,046	16,252	15,919	16,435	16,474
Births to Teenage Mothers	3061	3073	2979	2650	2784	2536	2597	2434	2370	2449
Births to Teenage Mothers as Percent of Total Births	17.1	18.9	18.9	17.5	18.3	16.9	16.0	15.3	14.4	14.9
Percent of Teenage Births Out-of-Wedlock	21.9	22.1	23.2	24.8	28.1	31.4	34.2	37.3	41.0	41.8
Percent of Teenage Mothers Receiving No Prenatal Care	13.7	15.5	9.2	5.3	6.9	7.1	6.5	3.2	3.0	3.2

Births Out-of-Wedlock

As shown in Table 1 and the bottom graph of Figure Two, the proportion of teenage births out-of-wedlock increased steadily from 21.9% in 1971 to 41.8% in 1980. Nationally, the proportion increased from 31.8% in 1971 to 46.9% in 1979 (U.S. Department of Commerce, 1981). Thus, while nonmarital childbirth to teenage mothers increased in both Maine and the nation as a whole, the proportion of Maine teenagers delivering out-of-wedlock was lower than the proportion for the nation as a whole at both the beginning and end of the decade.

Although the increase in proportion of out-of-wedlock pregnancy may appear to be cause for alarm, Chilman (1980) argues that the consequences of adolescent childbirth may be less severe if the young woman remains single. As a majority of teenage marriages end in separation or divorce, conceivably these teenagers who delay marriage will have a more stable marriage by waiting until they are older. It also appears that better educational and vocational outcomes are associated with remaining single. In addition, the teenage mother's parents are more likely to provide help in childrearing if the woman remains single. Thus, while neither marital nor nonmarital adolescent pregnancy should be considered desirable, there is little evidence that marriage per se is advantageous to the teenage mother or her offspring.

Prenatal Care

Early and continuous prenatal medical care is especially important for women who are pregnant during the adolescent years. There has been a decrease in the proportion of teenage mothers who did not receive any prenatal care, from a high of 15.5% in 1972 to 3.2% in 1980 (Table 1).

There are several possible reasons for this encouraging trend. Prenatal services have become more readily available, and publicity of their availability has increased through the efforts of hospitals, schools, and the media. Also, in the late 1970's, providers of services to adolescents in Maine organized a statewide Coalition on Adolescent Pregnancy to better coordinate their services. Whatever the reasons, this trend toward a greater likelihood of prenatal care is important, because it is through such care that potential problems for the health of the mother and child are detected and treated.

Births by Age of Mother

The number of births to teenage mothers, by age, for 1971 and 1980, is presented in Table 2. Approximately two-thirds of the births to teenage women for both years were to 18- and 19-years-olds, with approximately 4% to mothers 15 years of age and younger. The proportion of births to adolescent mothers for each age was similar for the two years.

The onset of prenatal care was inversely related to maternal age. The top graph of Figure Two shows that thirteen-year-old adolescents waited until late in the sixth month of pregnancy, on the average, to seek prenatal care. Nineteen-year-olds sought medical attention two and a half months earlier, on the average. As would be expected, the bottom graph depicts a positive relationship between total prenatal visits and maternal age.

Pearson correlations presented in Table 3 confirm that the age of the teenage mother is important with regard to prenatal care as well as to the health of the newborn. Higher maternal age was significantly associated with earlier prenatal medical care ($r=-.14$, $p < .001$), more frequent prenatal medical visits ($r=.12$ $p < .001$), higher infant birth weight ($r=.06$, $p < .05$), and better newborn physical condition as measured

Table 2

Births to Teenage Mothers in Maine, by Age of Mother, 1971 and 1980

Age of Mother	1971 Births	1971 (%)[1]	1971 (Cum %)	1980 Births	1980 (%)	1980 (Cum %)
13	3	(0.1)	(0.1)	5	(0.2)	(0.2)
14	16	(0.5)	(0.6)	18	(0.7)	(0.9)
15	91	(3.0)	(3.7)	79	(3.2)	(4.1)
16	272	(8.9)	(12.6)	236	(9.6)	(13.7)
17	578	(18.9)	(31.5)	443	(18.1)	(31.8)
18	880	(28.7)	(60.2)	664	(27.1)	(58.9)
19	1221	(39.9)	(100.0)	1004	(41.0)	(100.0)

[1]Births to mothers of the specified age as a percentage of total births to teenage mothers for that year.

Table 3

Correlations of Selected Demographic Characteristics and Health Variables for Maine Adolescents and Their Offspring, 1978-1980

	Age of Father	Education of Mother	Education of Father	Month Prenatal Care Began	Total Prenatal Visits	Birthweight	Apgar 1	Apgar 5
Age of Mother	.24** (N=4854)[1]	.53** (7163)	.16** (4703)	-.14** (7251)	.12** (7055)	.06** (7246)	.04* (6924)	.03* (6769)
Age of Father		-.03* (4823)	.05* (4665)	-.02 (4854)	-.01 (4727)	.01 (4851)	.02 (4639)	.02 (4535)
Education of Mother			.33** (4698)	-.07** (7163)	.09** (6990)	.08** (7158)	.02 (6844)	.03* (6690)
Education of Father				-.03* (4703)	.07** (4587)	.07** (4700)	-.02 (4494)	.01 (4392)
Month Prenatal Care Began					-.49** (7055)	-.04* (7244)	.00 (6924)	.01 (6769)
Total Prenatal						.19** (7049)	.03* (6752)	.06** (6601)
Birthweight							.12** (6918)	.18** (6764)
Apgar 1								.69** (6763)

* p <.05; **p <.001 - [1]Ns differ because some records did not contain complete information.

by Apgar scale scores at one minute after birth ($r=.04$, $p<.05$) and five minutes after birth ($r=.03$, $p<.05$). While none of the correlations is of a high magnitude, their statistical significance is supportive of other research that suggests that health risks associated with adolescent childbearing are greater to younger than older adolescent mothers (Baldwin & Cain, 1980). Table 3 also shows that the greater the number of prenatal medical visits, the higher the infant birth weight ($r=.19$, $p<.001$) and the higher the Apgar scores. These results underscore the importance of the trend toward earlier and more frequent prenatal care described previously in this report.

Other Findings

Two additional findings of the present research are worthy of note. First, it often appears to be taken for granted that the fathers of the offspring of teenage girls are teenage boys. However, for the 1978-80 period for which there are reasonably complete records of fathers' age, 53% of the males responsible for the pregnancy were 21 years of age or older. On the average, fathers were approximately four years older than mothers, but the oldest father in the sample was 54 years of age.

Secondly, the mean Apgar scale scores for infants born to teenage mothers in Maine during the period 1978-80 were 8.12 at one minute after birth and 9.21 at five minutes after birth. Indeed, even the infants of the thirteen-year-old mothers averaged 7.2 at one minute and 8.8 at five minutes after birth (Table 3). Since a score of seven or higher indicates that neonatal health is good and the newborn is not in medical danger (Danforth, 1977), the data suggest that the great majority of infants born to teenage mothers in Maine are health newborns. Thus, while there are often negative consequences of adolescent childbearing, most adolescent mothers will deliver healthy infants if prenatal care and nutrition are adequate.

SUMMARY AND CONCLUSIONS

As was true for the United States as a whole, the number of births to teenage mothers in Maine decreased during the decade of the 1970s. The proportion of Maine teenage mothers who were not married at the time of childbirth increased during this decade, and the proportion of teenage mothers receiving no prenatal care decreased substantially. Older adolescent mothers tended to receive earlier and more frequent prenatal medical care than younger adolescent mothers, and measures of the physical condition of the newborns were related to such prenatal care.

The data presented here indicate that trends in adolescent childbearing in Maine are not substantially different from the rest of the nation, although certain incidence statistics differ somewhat from the national picture. With sexual activity among adolescents apparently increasing and beginning at an earlier age, it is clear that teenage pregnancy and childbirth are long term problems requiring planned programs of education and assistance in the areas of nutrition, child care, and mental and physical health. Progress has been made in dealing with this social problem in Maine, and continuation and coordination of services to this population will be necessary for such progress to continue.

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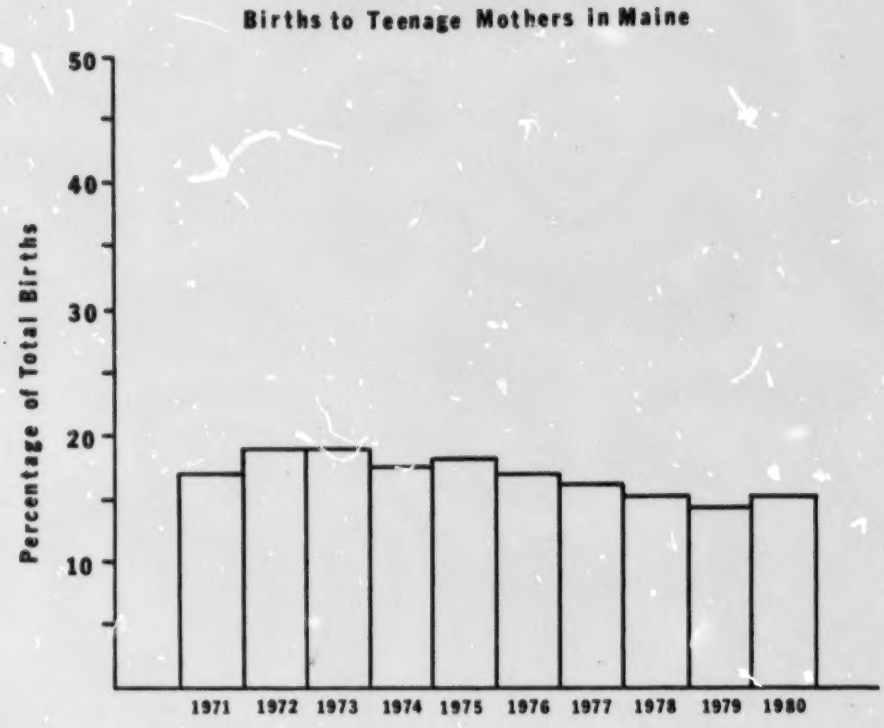

Births to Teenage Mothers in Maine
Percentage of Total Births
50
40
30
20
10
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980

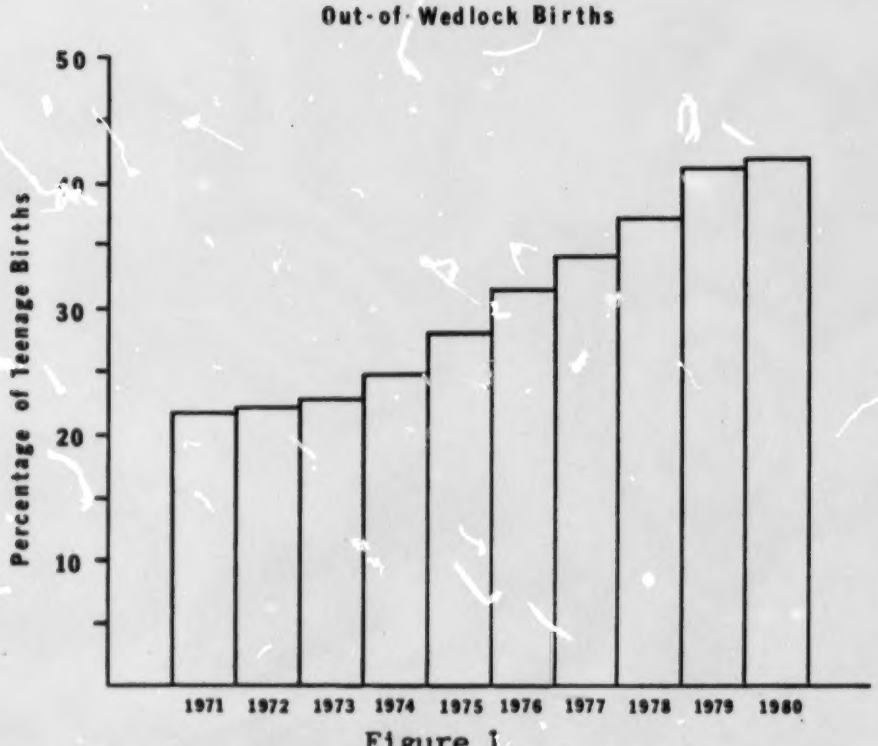
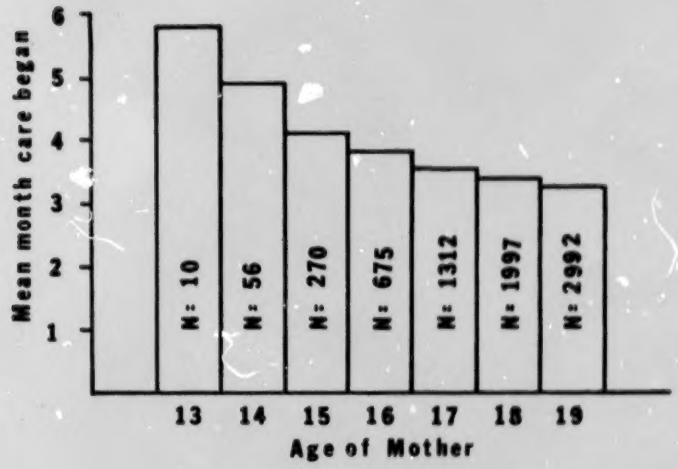

Out-of-Wedlock Births
Percentage of Teenage Births
50
30
20
10
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980

Figure 1

Mean month prenatal care began by age of mother for years 1978-1980



Mean total prenatal visits by age of mother for years 1978-1980

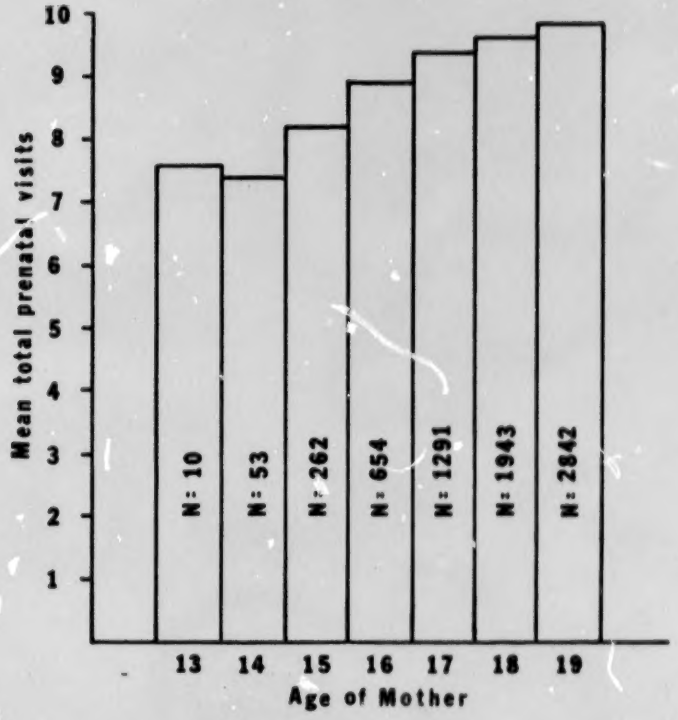
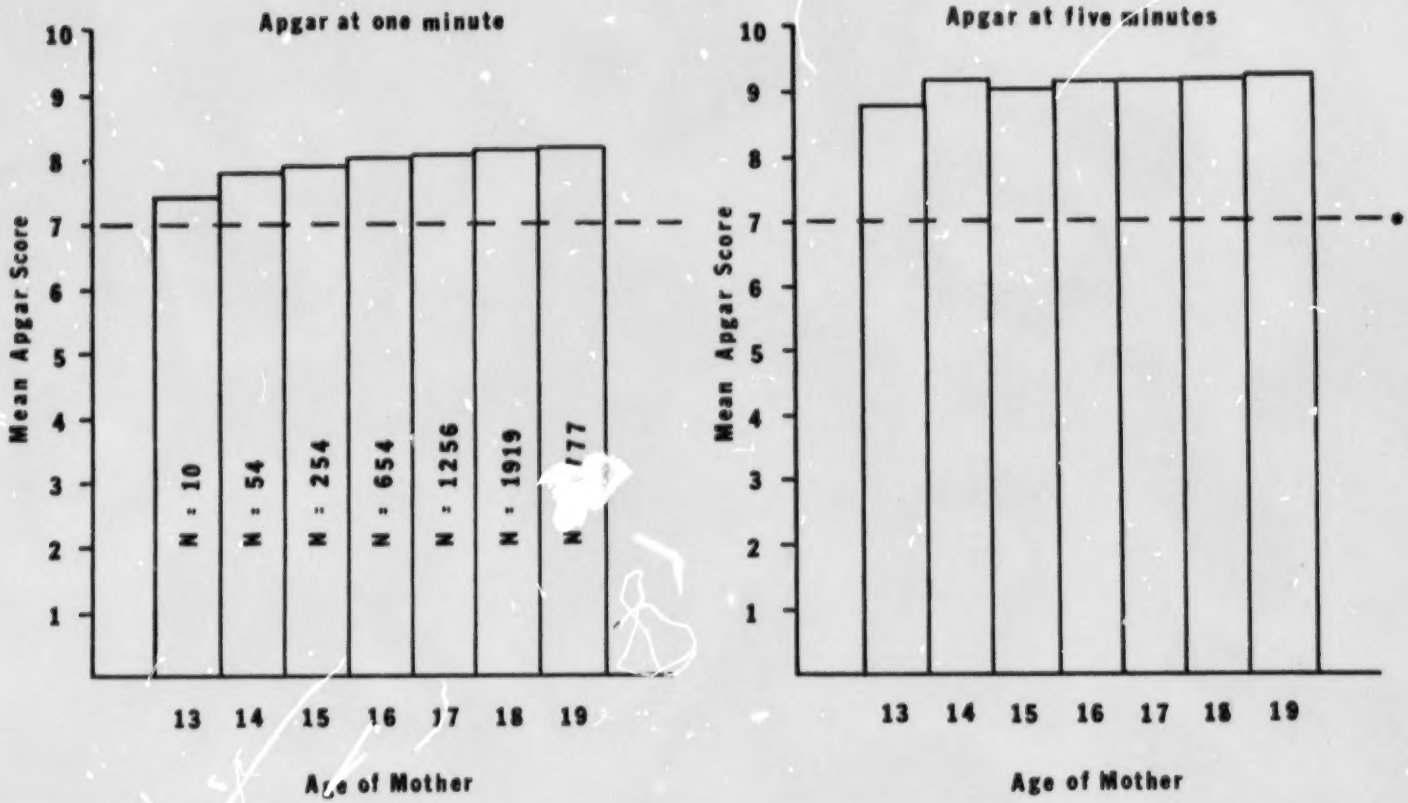


Figure 2

Mean Apgar Score of one and five minutes by age of mother for years 1978 - 1980



• A score of seven or higher indicates good neonatal health and no medical danger

Figure 3